



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,522	08/23/2001	Yuichi Yamamoto	70868-56306	9099

21874 7590 03/27/2003

EDWARDS & ANGELL, LLP
P.O. BOX 9169
BOSTON, MA 02209

EXAMINER

WINTER, GENTLE E

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,522

Applicant(s)

YAMAMOTO, YUICHI

Examiner

Gentle E. Winter

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 9 and 10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-8, drawn to an ultrasonic cleaning apparatus, classified in class 134, subclass 1.
 - II. Claims 9 and 10, drawn to a method of using the apparatus, classified in class 134, subclass 137.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of use and product. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process for using the product as claimed can be practiced with another materially different product. Specifically a dishwasher.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. It is noted that at the time of allowance of claim 1, non-elected claims 9-10 seemingly will be properly rejoined.
5. Pursuant to a telephone conversation with David G. Conlin on that originated March 10, 2003 a provisional election resulted with traverse to prosecute the invention of Group I, claims 1-
8. Affirmation of this election must be made by applicant in replying to this Office action.

Art Unit: 1746

Claims 9-10 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

6. Claims 5 and 7 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Specifically, the recitation of internal pressure of the enclosed space is higher than the pressure of the cleaning solution, which is supplied to the nozzle and is ejected therefrom; does appear to add any structure. The recitation of the operational frequency, without some accompanying structural limitation, or statement of structural dissimilarity, does not structurally differentiate the claim. As such claims 5 and 7 are rejected with their base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 4,890,567 to Caduff.

Art Unit: 1746

8. Claim 1 and 5 is drawn to an ultrasonic cleaning apparatus including a plurality of ultrasonic vibration units each having a nozzle, a vibration plate to which a vibrator is fixed; wherein the plural ultrasonic vibration units are arranged in two rows in a widthwise direction and also so arranged that a certain ultrasonic vibration unit of one row is located toward a substantially center of two adjacent ultrasonic vibration units of the other row.

9. Caduff discloses an ultrasonic cleaning apparatus (see title and the preamble of *inter alia* claim 1) including a plurality of ultrasonic vibration units (element 58 in figure 2-4 and described in detail in the associated text. Each transducer having a nozzle (element 52 and associated text), a vibration plate to which a vibrator is fixed. The vibration plate is construed to be the housing and is element 18 (or 10) from the drawing. The plural ultrasonic vibration units (58) are arranged in two rows in a widthwise direction (see figure 3 especially and associated text) and also arranged such that a certain ultrasonic vibration unit of one row (consider for example the center left row in figure 3) is located toward a substantially center of two adjacent ultrasonic vibration units of the other row. In this case consider the right hand center row. As there are only two rows, the offset is relative to the angle at which the system is viewed.

10. As to claim 2 disclosing that the ultrasonic vibration unit includes a holding member (this is construed to read on element 10 of Caduff in that the element supports the ultrasonic vibration unit, element 58) for holding the vibrator. The power supply for the vibrator 58 is disclosed at e.g. column 5, line 5 *et seq.* but is not in the figures. It is noted that the power supply is inherent. The casing 10 has an enclosed space portion formed therein for accommodating the vibrator 58.

Art Unit: 1746

The nozzle with a predetermined dimensional width is disposed adjacent to the vibration plate, the nozzle 52 including a projection piece for supplying cleaning solution through which ultrasonic vibration is transmitted 58 to the vibration plate 12.

11. As to claim 3, disclosing that the casing includes a cleaning solution supply path for supplying cleaning solution to the nozzle (the solution is shown ejected from the nozzle 52, inherently the solution is supplied to the nozzle) an air supply path for supplying air to the enclosed space portion 40 and associated text. Further, line 40 includes a wire-laying path for laying down the wire required to supply the power to the vibrator 58.

12. As to claim 4, disclosing that each of the ultrasonic vibration units, the casing (18) is provided with an opening portion for providing communication among the enclosed space portion (shown in figure 4 as the area where the nozzle is located), the air supply path (40) and the wire-laying path (40).

13. As to claim 8, disclosing that the opening portions of the end nozzles are arranged in the widthwise direction are located so that the target material (ship's hull) to be cleaned is interposed between the both nozzles, as viewed in the carrying direction. See figure 3. In a larger sense this limitation is seemingly drawn to a future intended use. Future intended uses are given weight that to the extent that they impact structural components.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Caduff as described above and United States Patent No. 5,399,017 to Droege.

15. Specifically, claim 6 discloses that each of the ultrasonic vibration units (58), the vibrator and the power supply member (construed as the power source) are fastened to the casing constituting the enclosed space portion by screws. Each and every claim limitation of claim 6 is identically disclosed in Caduff, as set forth above, except using a screw fastening system. While this is believed to be either inherent or obvious to be rigorous, Droege discloses screws are good fasteners. See e.g. column 10, line 35 *et seq.* disclosing that the spring support 38 will be attached to box 12 with some type of fastener such as a screw, a bolt, or some other fastener.

16. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Caduff as described above and United States Patent No. 4,368,054 to Koretsky et al.

17. In the event that structural differences are found to exist with respect to claim 7, then the limitations found in claim 7, specifically, ultrasonic vibration in use has a frequency within a

Art Unit: 1746

range of 400 kHz to 2 MHz would apparently differentiate the claim from the explicit teaching of Caduff. The disclosed frequency is not identically disclosed in Caduff but is believed to be inherently. Koretsky discloses a range of between 100 kHz and 100 MHz. See e.g. column 4, line 26 *et seq.* especially at line 41. The artisan would have been motivated to take the value explicitly disclosed in Koretsky because it is within the commonly disclosed range and is consistent with ultrasonic cleaning system applications.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gentle E. Winter whose telephone number is (703) 305-3403. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. The direct fax number for this examiner is (703) 746-7746.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gentle E. Winter
Examiner
Art Unit 1746

March 20, 2003



RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700